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THE EFFECTS OF PRODUCT KNOWLEDGE AND INTERNET EXPERIENCE ON ONLINE SHOPPING BEHAVIOR

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ABSTRACT

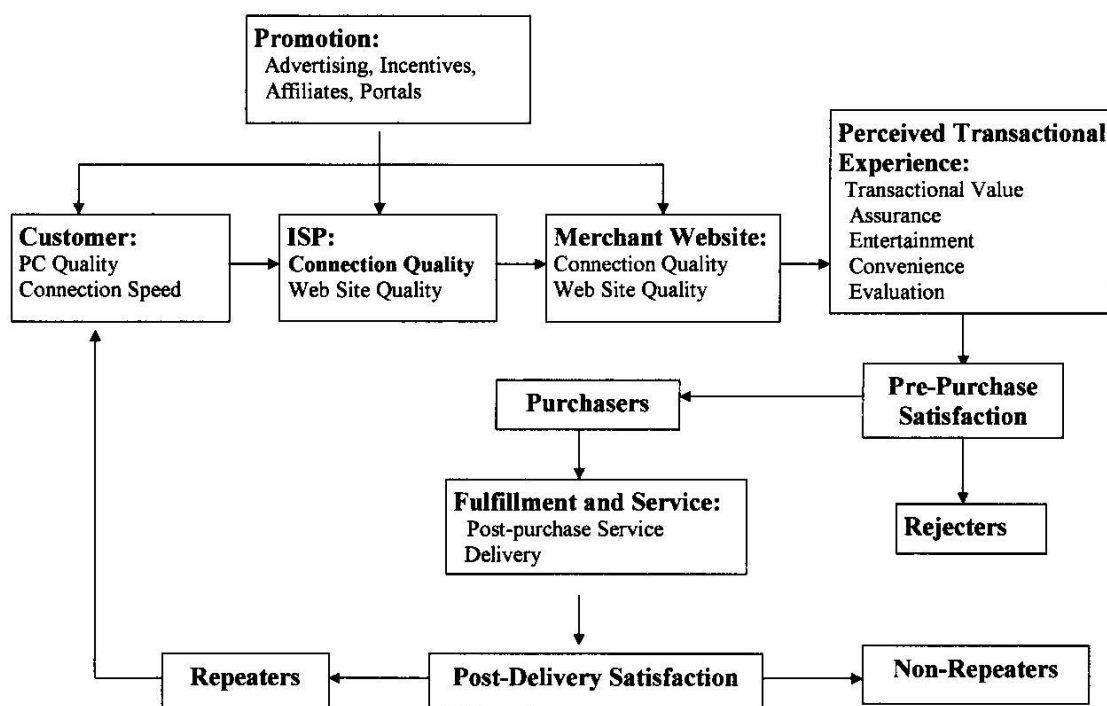
Thanks to tremendous growth of e-commerce and the advancement of Internet infrastructure, the online shopping medium has become a staple in many world economies. The present study examines how the consumer's product knowledge and Internet experience affect the level of uncertainty and perceived risk. Potential dimensions of product knowledge and Internet experience are developed and examined. Their effects on uncertainty and risk perception are proposed. An add-on model linking product knowledge, Internet experience, uncertainty, risk, trust, and purchase intention is developed. The add-on model is incorporated into an existing model of online shopping process (NetShop). The revised overall model suggests how online shopping intention can be affected by the level of product knowledge and Internet experience, via their effects on uncertainty and perceived risk, as well as the three original factors, interactivity, transaction, and fulfillment.

Keywords: Online Shopping, Product Knowledge, Perceived Risk, Trust

INTRODUCTION

Thanks to tremendous growth of e-commerce and the advancement of Internet infrastructure, the online shopping medium has become a staple in many world economies. In order to be successful in the Internet niche, new and established firms engage in business model reengineering to keep up with changes in how customers acquire goods and services. The quick expansion of e-commerce in the 1990s and its ever-presence since mid 2000s and on have changed the retail landscape dramatically in the world economy. In the B2B sector, Internet technology facilitates numerous changes in corporate infrastructure in information exchange and procurement and distribution process. In the retail sector, the Internet has become a staple shopping medium. The importance of online medium prompts intensive research interest and various models of shopping behavior. Among competing models, the NetShop model (Figure 1) developed by Chen and Chang [1] [2] captures the essence of the online shopping process.

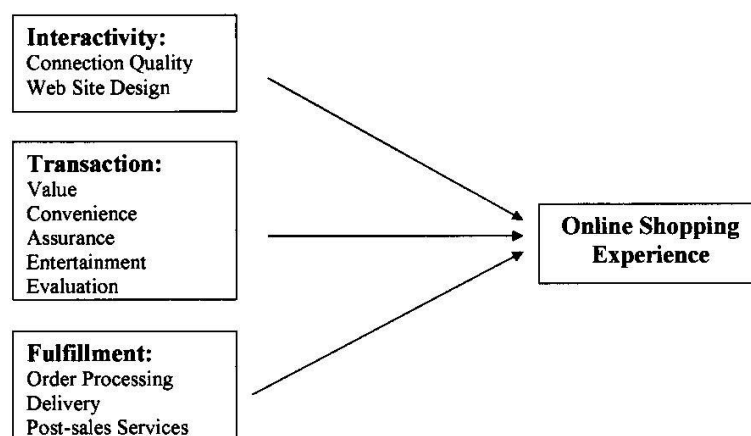
Figure 1: The Descriptive Model of Online Shopping Process



Source: Chang and Chen [2]

Based on the model, the consumer's online shopping satisfaction is determined by three factors, interactivity, transaction, and fulfillment (see Figure 2). *Interactivity* encompasses those human-computer interface factors that link a shopper with the online shopping site, e.g., Internet connection, website design and appearance, and system capacity. It is analogous to the physical shopping environment in a traditional retail store. *Transaction* includes factors that directly affect one's purchase decision, e.g., price, convenience, and security. *Fulfillment* contains factors such as delivery, exchange and return policies, and post-purchase services.

Figure 2: Determinants of Online Shopping Experience



Source: Chang and Chen [2]

As the Internet shopping medium becomes mature, the sector has gone through significant makeover. The Internet bust since early 2000 has helped consolidate the Internet retail sector as many Internet startups went under while many others consolidated with one another. Many Internet marketers have reduced the importance of price factor and turned their attention to value components, such as convenience and efficiency. As the online sector becomes more mature with healthy Internet infrastructure, less emphasis was placed on factors such as privacy and security, which have been of great concern for Internet shoppers for many years [5] [6] [7] [10]. In the fourth quarter of 2002, online retail sales reached \$17.44 billions, an increase of 40% from the same period a year ago [3]. By the end of 2006, online sales had exceeded \$200 billions, according a study conducted by Forrester Research Inc. for Shop.org, the online arm of the National Retail Federation and CNet News (October 2006).

One issue has clouded online shopping sector is uncertainty. Uncertainty in buying behavior refers to the degree to which the outcome of a transaction cannot be accurately predicted due to information asymmetric, that buyers are often at a disadvantage in information. Uncertainty includes seller quality uncertainty, (incomplete information, shirking, or even defrauding, and product quality uncertainty, not as expected, not as promised, and being compromised [9]. The level of uncertainty has a direct impact on the formation of risk perceptions associated with a purchase [4]. Some unique online shopping characteristics contribute to the heightened degree of uncertainty and often make online purchases seem to be riskier than what they really are.

Based on the NetShop model, the present study examines how the consumer's product knowledge and Internet experience [8] affect the level of uncertainty and perceived risk and how such effects can be incorporated into the overall online shopping model. Potential dimensions of product knowledge and Internet experience are developed and examined. Their effects on uncertainty and risk perception are proposed. Finally, a model linking product knowledge, Internet experience, uncertainty, risk, trust, and purchase intention is developed. The add-on model suggests how online shopping intention can be affected by the level of product knowledge and Internet experience, via their effects on uncertainty and perceived risk.

The following specific relationships are proposed and examined:

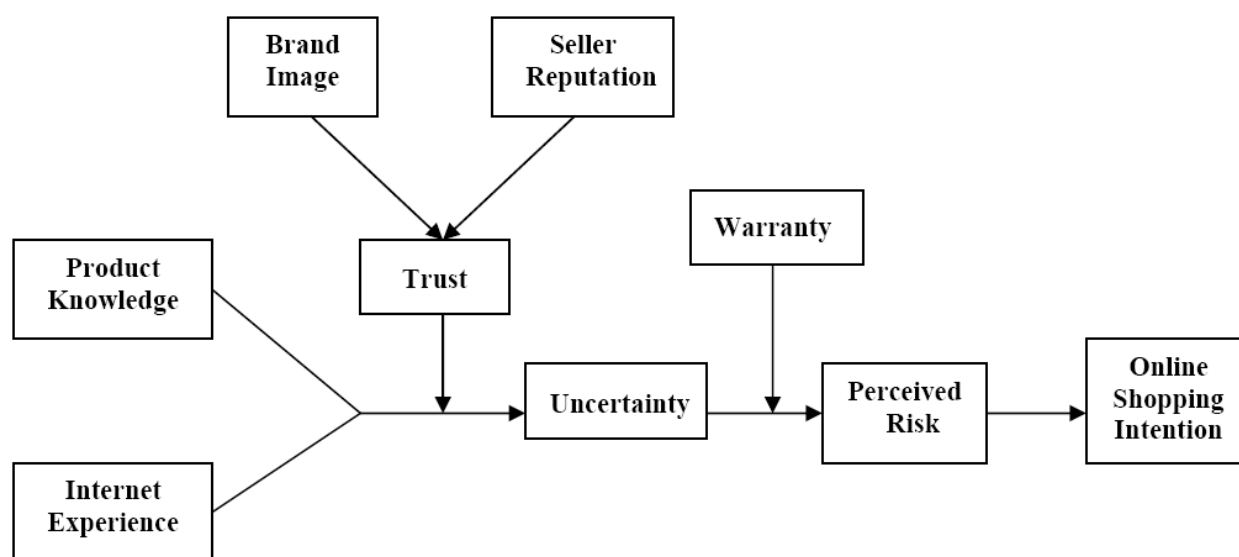
- Product knowledge has a negative relationship with uncertainty. Knowledgeable online shoppers are more certain with their online purchase decisions.
- Internet experience has a negative relationship with uncertainty. Internet-savvy online shoppers are more certain with their

online purchase decisions.

- Internet-savvy online shoppers who are knowledgeable about the product have the lowest level of uncertainty.
- Risk is a direct, positive function of uncertainty. Online shoppers who are uncertain will perceive an online purchase as risky.
- Online shopping intention is negatively related to the level of perceived risk. Online shoppers will avoid making risky purchases.
- Trust is an effective factor that can moderate the effects of product knowledge and Internet experience. Trust can be built by various means, such as brand image and seller reputation.
- Perceived risk can be reduced by means such as warranty.

The added model is shown in Figure 3.

Figure 3: The Add-on Model on the Effect of Perceived Risk on Online Shopping Process

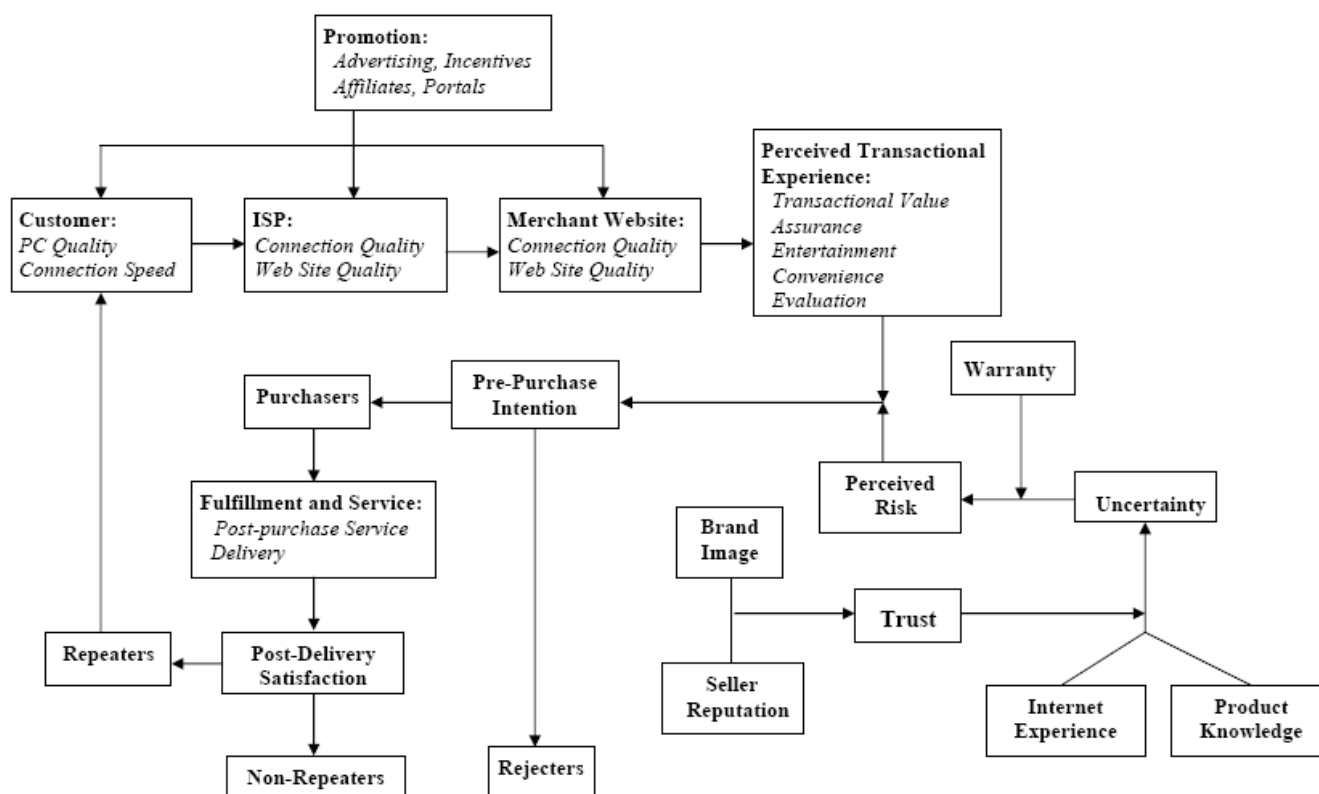


Combining the add-on model to the Chen and Chang's [1] [2] NetShop model, a revised NetShop model is depicted in Figure 4. The model suggests that consumers' product knowledge and Internet experience can be used to segment potential customers. It is more effective to market to online shoppers who are Internet savvy and knowledgeable. On the other hand, it can be futile to target at consumers who lack product knowledge and are not comfortable with the Internet in general. For consumers who are somewhere in between, managerial factors, such as brand image, seller reputation, and warranty can be incorporated into the purchase decision process to lessen the degree of uncertainty and perceived risk and increase purchase intention.

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Based on the revised NetShop model, overall online shopping experience is affected by four components: interactivity, transaction, fulfillment, and perceived risk associated with the online purchase. The model offer a broader view of the overall shopping process and suggest a more comprehensive approach in evaluating online shopping experience. The model can be of diagnostic value to the managers and researchers. The managers may examine various component of the shopping process in diagnosing the weak links in the overall online shopping process. Academic research may test and revise various relationships as suggested in the overall NetShop model. As further empirical evidences accumulate, the model can be refined and revised based on research findings.

Figure 4: The NetShop Model of Online Shopping Process



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